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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/505,474

08/24/2004

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EXAMINER

EPPS FORD, JANET L

ART UNIT

PAPER NUMBER

1633

MAIL DATE

DELIVERY MODE

05/03/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/505,474	<b>Applicant(s)</b> TSUKAMOTO ET AL.	
	<b>Examiner</b> Janet L. Epps-Ford	<b>Art Unit</b> 1633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 3 and 5-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4 and 10-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election with traverse of Group II (claim 4, and linking claims 1, 2, and 10-14) in the reply filed on 2-09-07 is acknowledged. The traversal is on the ground(s) that the Office has misapplied 37 CFR § 1.475(b), specifically Applicants argues that Groups 1-VII are drawn to a single category of invention, methods for treating woodchips, and not to "multiple methods and multiple products." This is not found persuasive because the method recited in each of Groups I-VII, respectively, are drawn to methods for treating woodchips comprising the use of a distinct set of antisense RNA substantially complementary to seven distinct forms of cellulolytic enzyme. The products used in the methods set forth in each of Groups I-VII target a distinct nucleic acid target, comprise a distinct chemical structure, and would therefore be expected to produce a distinct result when applied in the recited methods. Furthermore, the use of each distinct antisense RNA product targeting each distinct form of cellulolytic enzyme in Groups I-VII would require a separate search and consideration of the prior art.

2. Therefore, as stated in the prior Restriction Requirement, Groups I-VII are considered to read on multiple categories of invention (specifically, multiple methods comprising the administration of distinct antisense RNA products), therefore as per 37 CFR § 1.475(a)-(d), applications containing claims drawn to more than one categories of invention (as defined by section (b)) are not considered to have unity of invention (see particularly section (c)).

The requirement is still deemed proper and is therefore made FINAL.

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3. Claims 3, and 5-9 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 2-09-07.

4. Claims 1-2, 4, and 10-14 are presently pending for examination.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-2, 4, and 10-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. (Written Description).

7. The instant claims are drawn to a method for treating woodchips, comprising the steps of: preparing a DNA encoding an antisense RNA substantially complementary to the whole or a part of a transcription product of a cellulolytic enzyme gene derived from Basidiomycete; preparing a vector comprising (a) said DNA, or (b) a recombinant DNA comprising said DNA and a DNA fragment having a promoter activity, wherein said DNA binds to said DNA fragment such that an antisense RNA of the cellulolytic enzyme gene is generated as a result of transcription; transforming host cells with said vector, so as to prepare the host cells having a suppressed cellulolytic enzyme activity; and

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inoculating said host cells having a suppressed cellulolytic enzyme activity into woodchips to treat them. The instant invention further comprises wherein the cellulolytic enzyme is a cellobiohydrolase 1 gene, and wherein the cellobiohydrolase I gene comprises any one of the following nucleotide sequences (a) to (c): (a) a nucleotide sequence as shown in SEQ IDNO: 7, 9 or 11; (b) a nucleotide sequence hybridizing with a nucleotide sequence comprising a nucleotide sequence complementary to the nucleotide sequence according to a nucleotide sequence as shown in SEQ ID NO: 7, 9, or 11, under stringent conditions, and encoding a protein having a cellobiohydrolase I gene enzyme activity; and (c) a nucleotide sequence comprising deletion, substitution or addition of one or more nucleotides with respect to SEQ ID No. 7, 9 or 11, and encoding a protein having a cellobiohydrolase I gene enzyme activity.

The specification as filed provides sufficient description for the skilled artisan to predict the structures of antisense constructs that produce an antisense RNA having a sequence that is fully complementary to SEQ ID NO: 7, 9 or 11, wherein the antisense RNA is effective for suppressing the enzyme activity of cellobiohydrolase 1 gene, having a sequence according to SEQ ID NO: 7, 9 or 11.

However, the scope of the instant claims comprises the treating woodchips with a host cell having suppressed cellulolytic enzyme activity, with an antisense construct encoding an antisense RNA substantially complementary to the whole or part of a transcription product of a cellulolytic enzyme gene derived from Basidiomycete, wherein the cellulolytic enzyme gene is a cellobiohydrolase 1. However, Applicants have not

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described the structures of the full scope of cellobiohydrolase 1 genes encompassed by the instant claims, such that the skilled artisan would be able to predict the structures of the full scope of antisense constructs encompassed by the instant claims. This conclusion is based upon the observation that, other than the full-length sequences of SEQ ID NO: 7, 9, or 11, wherein said sequences have cellobiohydrolase 1 activity, the specification as filed does not provide a clear correlation between modified, mutated, polymorphic, or allelic variant forms of these sequences, wherein said sequences comprises deletions, substitutions or additions, and maintains cellobiohydrolase 1 activity. Moreover, to the extent that Applicants are not in possession of the full scope of nucleic acid sequences encoding modified, mutated, polymorphic, or allelic variants of cellobiohydrolase 1 encompassed by the instant claims, Applicants are not in possession of the full scope of antisense constructs encompassed by the instant claims which target the full scope of nucleic acid sequences having cellobiohydrolase 1 activity.

See the January 5, 2001 (Vol. 66, No. 4, pages 1099-1111) Federal Register for the Guidelines for Examination of Patent Applications Under the 35 USC 112 ¶ 1, "Written Description" Requirement. These guidelines state: "[T]o satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. An applicant shows possession of the claimed invention by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention. Possession may be shown in a variety of ways including

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description of an actual reduction to practice, or by showing that the invention was "ready for patenting" such as by the disclosure of drawings or structural chemical formulas that show that the invention was complete, or by describing distinguishing identifying characteristics sufficient to show that applicant was in possession of the claimed invention."

See also MPEP § 2163, which states "[A] biomolecule sequence described only by a functional characteristic, without any known or disclosed correlation between that function and the structure of the sequence, normally is not a sufficient identifying characteristic for written description purposes, even when accompanied by a method of obtaining the claimed sequence."

In the instant case, since Applicants have not provided sufficient description to clearly demonstrate a correlation between the nucleotide sequence structures

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al. (1995; see IDS).

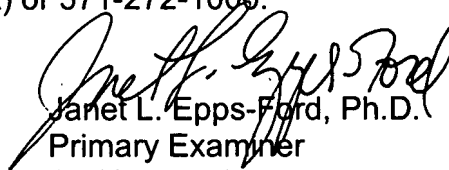
Chen et al. discloses a method for pulping comprising treating wood chips with "white rot." See Results and Discussion section on page 200 of this reference.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janet L. Epps-Ford whose telephone number is 571-272-0757. The examiner can normally be reached on M-F, 10:00 AM through 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Woitach can be reached on 571-272-0739. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Janet L. Epps-Ford, Ph.D.  
Primary Examiner  
Art Unit 1633

JLE